end more angular, ventral margin less curved; mussel more inflate, above, but the discs towards the ventral are somewhat flattened; surface less rugulose and somewhat glossy color light to dark corneous.—Greenwood Park pond at Des Moines, Ia., collected by Mr. T. Van Hyning, in 1906, associated with *notatum,* and a few other Sphaeria. There were many hundred specimens of the two, and these are markedly different from each other, but with intermediate forms. It appears possible, or even probable, that they are distinct species, may be carried into the pond by streams, and there hybridized. I could not obtain any facts proving or disproving this. But: some specimens of *gibbosum,* typical, have been seen from other places, partly distant, not accompanied by *notatum;* and: with all other *notatum* from scores of places, there were no *gibbosum.*

Beside these, there are some other Sphaeria more or less resembling *notatum,* under doubt. Additional materials may prove whether they be forms of this, or of distinct species.

SOME MISPLACED PLEUROCERIDS

BY CALVIN GOODRICH

Several species of the Pleuroceridae have been permitted to remain for many years in genera to which they do not belong. In the notes that follow I have called attention to more or less casual corrections of such mistakes, and have undertaken on my own part the correction of others. So far as I have been able to do so I have examined types.

Io rota Reeve, 1860. Thought by Tryon to belong to *Angitrema.* Pilsbry has recognized this as *Pachymelania aurita* (O. F. Müller). See "Aquatic Mollusks of the Belgian Congo", p. 267.

Melania brevis Lea, 1843; *Lithasia showalterii* Lea, 1850; *L. fusiformis* Lea, 1861, and *L. vittata* Lea, 1862, all from the Coosa River, are not Lithasias as Lea and Tryon considered them, but Goniobases. This was pointed out to me several years ago by Herbert H. Smith. The correction requires a change in the name *Melania showalterii* Lea, 1861, and I propose that this species be made *Goniobasis pilsbryi.*

Melania bitaeniata Conrad, 1834. A *Strephobasis* in the judgment of Tryon. I take this to be a *Goniobasis,* possibly a deformed and smooth specimen of *Goniobasis hydei* (Conrad).

Melania compacta Anthony, 1854. Placed by Tryon in *Lithasia.* This and its synonym, *Lithasia nuclea* Lea, 1860, are Anculosas.

Melania planospira Anthony, 1854. Called an *Anculosa* by Tryon. The author gives Tennessee as the type locality, but the specimen in the Museum of Comparative Zoology that is labeled "type" is marked as from Kentucky. It is the stout Anculosa-like *Lithasia obovata* (Say) that occurs in the Green River at Mammoth Cave. Anthony does not mention the cave as one of the places he visited on his walking trip into the south, but he describes *Melania latitans* as from it.

Melania torta Lea, 1845. Placed by Tryon in *Pleurocera.* This is a plicate *Goniobasis* that is close to *laqueata* (Say). It appears to be confined to a few streams of southern Tennessee. It is, as Tryon remarks, peculiar for the "great accumination of the upper part of the spire."

Melania strigosa Lea, 1841. The types, 121,603, National Museum, have the sculpture of *Goniobasis arachnoidea* (Anth.), and are close to that species. It is a creek form, probably from near Knoxville, Tenn., and not a mollusk of the rivers, as the locality given by Lea, Holston River, indicates.

Trypanostoma lyonii Lea, 1863, *Pleurocera* Raf. displacing *Trypanostoma* Lea. This is the common *Goniobasis ebenum* (Lea) that occurs in the Cumberland River and its streams above the Falls and in its tributaries below. Oc-

casional specimens in some of the colonies are plicate on the spire. A pure strain of the plicate shells inhabits the New River of the Cumberland and is, I think, the same as *Goniobasis emeryensis* Lea. The locality for *emeryensis* is given as "Rocky Creek, Head Branch of Emery River, E. Tenn." Dr. Ortmann and I, at different times, tried to find the shell in the Emory drainage, and failed. The maps of the 1860's were probably not very good in the matter of detail, especially as regards the rough country of Eastern Tennessee, and it is likely that even the natives were not quite sure whether their Rocky Creek belonged to the Cumberland or the Emory.

Melania opaca Anthony, 1860. A *Pleurocera* according to Tryon. The type in the Museum of Comparative Zoology is a *Goniobasis* of one of the groups that occur in the vicinity of Helena, Ala. If it is a good species it is close to *Goniobasis germana* (Anth.), described at the same time.

Trypanostoma tennesseense Lea, 1862. Placed by Tryon in the synonomy of *Pleurocera opaca.* Lea says he received the shells from Drs. Troost and Currey and J. M. Safford. Those in the National Museum that came from Dr. Troost, which I assume to be the types, are freakish specimens of *Goniobasis sordida incurta* (Anth.)

Melania procissa Anthony, 1854. Made by Tryon, with some hesitation, the sole member of his first group of *Goniobasis.* He thought it probable that the shell, though assigned to Alabama, might be from North Carolina where *Anculosae* somewhat like it occur. In examining some material from the Alabama Museum of Natural History I came upon a shell accompanied by a note in Herbert H. Smith's handwriting venturing the opinion that this was Anthony's *procissa.* It was taken on Muscle Shoals, and is a young *Lithasia verrucosa* (Raf.) with a freakish sculpture.

Goniobasis stewardsoniana Lea, 1862. The types, 119,-270, Natural Museum, are *Lithasia verrucosa* (Raf.) in which the tubercules have coalesced into raised lines continuous quite around the whorls.

Melania abbreviata Anthony, 1850. Tryon makes this a *Goniobasis* and throws *M. elegantula* Anth., *coronilla* Anth., *curvilabris* Anth., and *chalybaea* Anth. (Brot) into its synonomy. The type of *abbreviata* is a deformed *Lithasia,* probably *L. fuliginosa* Lea. Of *coronilla,* Mr. W. J. Clench of the Museum of Comparative Zoology writes me that "one specimen, marked 'original', presumably from the original lot, is labeled 'Kentucky.' This is probably the correct locality. * * * It looks very much like the Green-Barren River material," meaning *Lithasia obovata* (Say) that in the Green River and its drainage takes many forms. One of the forms, in numbers always comparatively rare, is *curvilabris.* It may be pathological. A corresponding form in the Ohio river has been named *Goniobasis informis. Chalybaea* seems to be a nude name.

Melania aequalis Haldeman, 1841. Considered a *Goniobasis* by Tryon. Specimens in the National Museum are young shells either of *Io* or *Lithasia.* In the Walker collection are young *Lithasia verrucosa* Raf. that are from Nolachucky River, as is the case with *aequalis.* They are remarkable for rather strong plicae, which appear to be the most striking character of Haldeman's species. Fig. 164 in Tryon's monograph shows a specimen with an aperture quite unlike *Goniobasis,* but resembling that of some Lithasias.

Melania tabulata Anthony, 1854. A *Goniobasis* in Tryon's opinion. I did not see this species in examining the Anthony types. Three lots in the Lea collection named *tabulata* are *Lithasia obovata* Say. The author's description and the figures in Tryon suggest *obovata.* The type locality is given as Tennessee though, more likely, it is Kentucky. Anthony's geography was often imaginative.

Melania nickliniana Lea, 1841. Placed by Tryon in *Goniobasis.* This is a form of *Anculosa carinata* Brug.

Goniobasis auricoma Lea, 1862. It is a young *Lithasia,* probably *verrucosa* Raf.

Melania gibbosa Lea, 1841. Thought by Tryon to be *Goniobasis.* The types, two specimens, are *Lithasia obovata*

Say, possibly deformed, the columella being peculiarly impressed. As in the case of *M. hildrethiana* Lea, which is *obovata* also, *gibbosa* is only a dwarfed form of the species that is the most abundant of the *Pleuroceridae* on the Falls at Louisville.

Melania densa Anthony, 1850. Placed by Tryon in the synonomy *Goniobasis simplex* (Say). The type is an elongated *Lithasia fuliginosa* Lea.

Melania depygis Say. Considered by most collectors to be the leading term of a group of *Goniobasis*. Mr. A. A. Hinckley expressed his suspicion to me several years ago that this is the slender form of *Lithasia obovata*, usually only partly grown, that occurs in great numbers at the Falls of the Ohio. My belief in the correctness of this view has gained support through the examination of several collections from the Falls, including two that I made myself. I have recently gone over several thousand specimens that were taken by Call in this place and are now the property of the Museum of Comparative Zoology. Not one individual was a *Goniobasis* and all from the Falls that were named *depygis* were in fact *L. obovata*. Other species erected on the variations of *obovata* at this place are *Goniobasis infantula*, *louisvillensis* and *informis* Lea, all named in 1863, and probably from the same sending.

Melania livida Reeve, 1860. Though thrown by Tryon into the synonomy of *Goniobasis semicarinata* Say this shell belongs to that of *Pleurocera acuta* Raf.

Melania alexandrensis Lea, 1845. Included by Tryon, together with the next species, in his grouping of *Goniobasis*. The types are young *Pleurocera acuta* Raf. Specimens in the Museum of Comparative Zoology that were received from Josiah Hale, the original collector, are also *acuta*.

Melania haleiana Lea, 1845. The type lot consists of juvenile *P. acuta* together with young *Goniobasis* that, apparently, are *plebeius* Anth.

Melania grisea Anthony, 1860. A *Goniobasis* according to Tryon. I cannot be sure that I saw the types during my

examination of the Anthony material, but one lot named *grisea* and labeled "for exchange" is young *Lithasia*, probably *florentiana* Lea.

Goniobasis lawrenci Lea, 1869. The types are *Pleurocera acuta* Raf.

NOTE ON THE GENUS CERATODISCUS

BY H. A. PILSBRY

Ceratodiscus was proposed for a Haitian operculate landshell, *C. solutus* Simpson and Henderson, of which the animal and operculum were unknown. A Cuban species from Guantanamo was subsequently (1914) described, *C. ramsdeni*, and in the same paper *Cyclotus minimus* Gundl., Pfr. was referred to the same group and its operculum was described by myself.

Recently Dr. Joh. Thiele has described and figured the operculum and dentition of *C. minimus* (Archiv f. Molluskenkunde LIX, 1927, p. 155–157, pl. 9, figs. 5–7). He concludes that it is a Helicinid snail, approximating to *Stoastoma*. The operculum is figured as though the nucleus was at the columellar border, but he does not mention the point in his description. In my description the nucleus is stated to be at the external border. The radula is not figured in full detail by Thiele, and appears to resemble that of *Lucidella;* compare H. B. Baker's figures of *L. (Poenia) lirata,* Proc. A. N. S. Phila., vol. 74, 1922, pl. 3, fig. 5, pl. 5, fig. 21. I am inclined to view *Ceratodiscus* as forming a subfamily, Ceratodiscinae, of the Helicinidae, characterized by the peculiar operculum with external nucleus, and the tubular whorls of the openly umbilicate shell.

On opening specimens of *C. ramsdeni* I find that the in-